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ABSTRACT

British students in four age groups--4 to 5, 7 to 8, 11 to 12, and 15 to 16 years old--were observed in their classrooms in order to explore the relationships among the learner, knowledge, and thinking, and the role that writing plays in what is learned. In the infant classroom, writing was quite visible in the form of labels, questions, sentences, word and number lists, personal stories, classmade books and charts, and published books. In the junior school classroom, which included 8 and 11 year olds, writing was not as visible as it had been in the infant classroom, since movements in the classroom were more limited and looking at other people's writing was not acceptable. In the secondary school classroom writing became the major means of demonstrating private knowledge and became increasingly separated from direct experience. These changes resulted in students parroting information back to the teacher. These observations suggest that writing should be considered as simply one form of knowledge manifestation, and teachers should not only recognize the difference between process and product but use student writing as a gauge of thinking strategies. Examples of children's writing illustrating various aspects of the learning process are included. (DF)

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Thinking, Knowledge and Writing:
A critcal examination of the learning process in schools.

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Thinking, Knowledge and Writing:
A critical examination of the learning process in schools.

The thoughts I will be sharing with you today are the result of an amalgam of 17 years teaching, punctuated by psychology theory and philosophy and two research programmes questioning the learning process. I will briefly describe these so you get some sense of what underpins the ideas I will explore today.

The first of these pieces of research was exploring the concept of 'process curriculum' in direct relationship to the learner. I hypothesised a learner's knowledge structure, relating private and publicly accessible knowledge, and cognitive learning skills that the learner would need to use to make 'action knowledge' (Barnes, 1976) within the structure. Briefly these were:

the use of perception;
the use of interpretation;
the use of spoken language;
the use of visual symbol;
the use of group interaction;
and the use of autonomy.

I set up a task 'experiment' with groups of children aged 5, 7, 9, 11, 13, and 15 which explicitly expected group responsibility and individual knowledge as I handed responsibility to the groups by withdrawing myself. In this situation all ages, though not all individuals, manifested the cognitive skills to a greater or lesser extent, as they reflected on their knowledge through the given language context of the task, and made their private knowledge into the publicly visible model of an environment.

My current research is looking at 'learning', again across age groups, 4/5, 7/8, 11/12 and 15/16 year olds, but this time - as it is in classroom interactions. In following the groups over a year, from May to May, I did no testing but observed in classrooms and interviewed both teachers and children about 'learning', classroom interactions and the thinking behind the behaviours I observed.

I don't want to go into details about either piece of research at the moment but intend to explore with you the relationship between the learner, knowledge and thinking and the part that

writing could, and does play in what is learnt. Perhaps I ought to say that the learners that I interviewed and observed taught me to understand 'learning' as the activity inside their heads which they engaged in to reach some self identified 'knowing' goal. The learning process showed how the goals were constantly moving as each was reached. Learning was not one dimensional however.

It became clear as I observed children in classroom situations and interviewed them about their learning, that learning required much effort and emotional investment. It was largely an activity of making meaning and working out how to think about something in order to 'know' it, particularly when some manifestation of knowledge was expected. This applied to both presented curriculum (indirect experiences) and the direct experiences of the classroom and the school which are frequently referred to as the hidden curriculum.

Before I move on to examine the role of writing in this learning process I would like to explain, or perhaps explore would be nearer the truth, the relationship between experience in 'the world' and the individual learner of whatever age. Figure 1 is an attempt to represent this relationship and shows how we can also consider this in terms of the relationship between publicly accessible experiences (or knowledge or information) and the individual's private knowledge including ways of thinking. Putting aside the nature or nurture debate for the moment, I want to show you how the experiences with which we interact and about which we make meaning are fundamental to the way we think and the content and form of our knowledge. I will be returning to this diagram throughout the paper as I explore the role that writing plays in the learning process but let me take you through the relationships of the separate parts.

1. Basically two forms of experience are available to us in the world - direct (real or manipulated) and indirect via representation of other people's personal knowledge.
2. The meaning individuals makes from any world experience depends on their way of thinking and feeling about it and their existing knowledge of it. For example second, or subsequent exposures to a new country, person, word or idea lead us to different meanings from that generated by the first.

Figure 1 An exploration of the relationship between the learner, thinking and knowledge.

3. An interactive experience with the world has both meaning and content for the individual which are cognitive in nature and creates private knowledge related to that individual. This private knowledge remains embedded in the original experience unless cognitive processes disembed, identify and organise the conceptual nature of the experience. While it remains embedded in the experience, direct and indirect, we may be able to 'do' what we know in specific contexts but change or re-contextualisation would be impossible. Given extensive cognitive experience of the same thing we may develop intuitive understandings and theories from the meanings generated, which change our actions etc but we cannot readily conceptualise or communicate our ideas until they become disembedded from the cognitive context in which they occurred.

4. Disembedded knowledge is formed from reflection on and organisation and representation of cognitive experience. Only when our knowledge is in this form can we manipulate it and use it in contexts other than the original. This manipulation includes questioning, explaining, theorising and integration with other concepts and ideas that have been disembedded from other cognitive experiences.

5. Higher level or abstract thinking is possible at the intuitive level in cognitive experience and can be recognised in the way people act in familiar situations. However most abstract thought relates to that stemming from disembedded personal knowledge which can be conceptualised and verbalised.

What I want to show through this paper is the role that writing can, but frequently does, play in creating forms of personal knowledge and higher level thinking in our schools.

Learner's Thinking and Knowledge in the Classroom

It became clear in my current research that because people, including children(!), make personal meaning out of what they experience, the meanings generated in interactions in classrooms are crucial to the way that children come to think about their own thinking and knowledge.

Particular meanings must be generated in classrooms if the

FIGURE 2

Drawing and writing by Nikki and Helen,aged 5

children are to continue to USE and extend their thinking and knowledge. There has to be overt recognition and expectation of children's thinking by the teacher, alongside recognition of the different interpretations of any one direct or indirect experience depending on experience.d The learners need specific situations which enable them to try out what they have 'thought' without the threat of being told they are wrong. This is not to say they have nothing left to learn but given the opportunity to use or learn alternative ways of thinking about something they quickly come to recognise ways that drawings, writing or any other manifestation of knowledge do not match up to other models. These five year olds in a vertically grouped infant class were telling the microphone about when they first came to school,

Nikki -I played, and I drawed and I colour my book - but it was all scribbly.

Clare -When I first come to school I drawed a man - but I forgot the arms.

And a year later Nikki (now 6 years old) told me about her writing which she had started to enjoy after earlier feelings of dissatisfaction;

Nikki ....cos you see I used to get fed up - and write big. (See Fig 2)

GHB How did you manage not to write big?

Nikki Ummm - I THINKED to get little writing - everytime I see Helen do little writing I thought I'd do little writing - Cos when you do BIG writing at the - at the Junior School - they wouldn't understand would they. .

What I am trying to demonstrate here is the awareness even young children have of their own deficiencies or lack of experience in interpreting and manifesting knowledge of the world. They will identify and seek to extend this experience provided they have alternative models available to them and some expectation made of being a 'learner'. The other important element already implied is the supportive element of the learning situation. If children are constantly exposed to a situation where they have

to answer the same question as everyone else which ignores any questions they may want to ask, and the expected answer assumes adult or 'expert' experience of both the content and the thinking, then those with less experience will feel demeaned by the situation if they are made to feel 'silly' or inferior to someone who does get it 'right'. The learning situation starts to generate different meanings for the learner.

At the least the learners involved in this sort of classroom interaction stop being so overtly reflective and questioning. They do not get the opportunity to learn to dis-embed their experiences and meanings from the original undifferentiated context and are therefore not able to use them in conceptual terms. They cease to recognise and value the knowledge of those experiences encountered outside the immediate classroom interaction because it is not overtly valued in the learning situation. This is not just true of children in schools but applies all the way up the educational ladder where previous experience is under-valued thus also undervaluing the person and their thinking.

<u>But Where does Writing fit in</u>?

If we look at the positive role that writing may play in enabling the individual to value, use and develop their ways of thinking and other private knowledge we can compare that with how it was used in classrooms from 5 to 16.

While this list gives a particular view of writing as a cognitive activity related to other knowledge we must not forget that writing is itself an experience which must be thought about and learned. In this way every writing act is itself a direct experience and may be considered both on the level of the act and that of the thinking required for the representation of knowledge. The following are concentrating on the latter though inevitably infer direct experience of the mode of writing.

1. Writing is a means of making disembedded conceptual private knowledge. Reflection on cognitive experience in order to organise it for public presentation requires conceptualisation in language terms of the elements of the experience along with creation of the relationships between them in order to put them into sentences, paragraphs and stories or into a process in mathematics.

we had a buEKeld Soll for Wood
and bolser wood and paintbrus
andsum plasTicine andwe pot a
hool in the balSter wood with a
paint brush and we poot the
Paint brush into the hoch in
bolser wood and we pot the
Paint brubh wat was in the
bolser wood in the woot and v
Poot the pbasTicine on the top
for the Paint brush and it
was top Heve.

FIGURE 3a

Writing which organises and represents cognitive experience of a science experiment.

The boat is a pictorial representation of the connection between what they did and the concept of stability that they had discussed in relation to his father's boats.

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FIGURE 3b
Writing which organises and represents cognitive experience of a particular story she has heard and read.

3rd page

the king said will you marry me
and the millers daughter said
yes I will and one day the little
man came back for the baby and she
said no and he said I will give
you three days to guess my name.
on the 1st day is this your name rumpo
no he said on the second day is this
your name damian no he said. and
the queen went to the woods
and she heard something and it
was like this my name is
rumpelstiltskin is my name. and the
last day when the little man came the
queen said rumpelstiltskin is your name

4th page

and he examined his feet and it
were like [illegible] the footprints and
that was the end of rumpelstiltskin.

You are a hard worker, Helen
:)

The match

Strike Stike Strike the match.
Glowing in the light. It glows
like diamonds and like pearls
With a puff the fire goes out.
Black is bad. White is good.
first the flame goes orange
then pink. Then it carries
on till it is dead. Before you
put it in the bin you must
check to see if it is out. Stars
shine. Eyes bright

FIGURE 4

Writing well known 'knowledge' in
a particular style.

The Match

Strike! Strike! Strike the match.
Glowing in the light
It glows like diamonds and like
With a puff the fire goes out.
Black is bad.
White is good.
First the flame goes orange, the
Then it carries on till it is de
Stars shine.
Eyes aflame.

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This would be true for an initial description, an anecdote, note writing, expression of intuitive ideas -or even a shopping list. The act of thinking out for writing requires reflection on, and organisation of what is 'known' in an undifferentiated way. The main audience for such writing would be the writer and may be exploratory, tentative and possibly illformed. It might look just like the experience itself (Fig 3 and 4-science and H's story) but the conceptual formation of it alters the cognitive meaning of it.

2. Writing is a means of presenting disembedded knowledge of an experience in a public form where emphasis may be put on form and style of presentation of the knowledge perhaps with an audience in mind (Fig 4 - poem about match). In this way poetry, newspaper reports or academic writing could represent the same experience in very different ways depending on the requirements of the audience or the inclinations of the writer.These different direct experiences would themselves create new meanings of 'old' experiences.

3. Writing is a forum for changing the thinking, interpretation or meaning of concepts from cognitive experience or disembedded experience. This may mean manipulating concepts and ideas in, for example, creative forms, or putting alternative 'knowledge' frameworks around them which leads to re-interpretation and different understandings of the original concepts (Fig. 5a) These may be regarded as abstract forms of writing because the ideas have become disembedded from their original context even though the concepts themselves may not appear 'high level' concepts.(Fig 5b- Creative writing by H.) As this example shows this thinking is 'harder' for Helen and leads to an initial deterioration in fluency.

I would not maintain that writing is the only way that private knowledge may be represented or thinking extended but the fact that the act of writing makes visible to the writer what had previously been unexpressed and perhaps unknown in that form means that it then becomes recognisable and changeable. What also becomes apparent to the writer is what they do not know in experience terms. I remember vividly an occasion when I was asked to 'write history' from some documents we were given. I

By David.

5yr

No my Piknik

Ounes a pone time me and Daddy and MoMMy and Ramond my Buter we all went For a piknik and we had a lot to eat and we had the piknik ney the Rive and it was rather clepe. and ther are lots tree's and ther was lots of bote's. and lots pepo' (en-joying) (giving) ther sefe's. and I bate to my sefe wiye (we'll) bote Sowe I met a fwowe freds Sowe I went Salling wite my freds a log the Rive and we were (once) on the rive and we went in the Snow and I felt the (stones) sonse no the know Sowe me and my freds wete bake and we all had tey.

FIGURE 5a

This writing followed considerable work on the water cycle including discussion of the stages of a river. David contributed a great deal to these discussions in terms of responses, questions and explanations to others. They had been asked to describe how they would make a river into a leisure centre for all ages. They were given the choice of writing or drawing their description.

David relates the new concepts to past experience - giving examples rather than using the concepts themselves.

FIGURE 5b

Manipulating knowledge - content and form brought together for the first time.

once upon a time there was two girls and two boys and the two girl names were Helen and cherry. and the two boys names were Douglas and Nicholas and they went to the woods and Helen and cherry went to bed and Douglas and Nichol went to bed and in the morning Douglas alright Nichola you no them two girl name ale and they went to the woos and Douglas and Nicnolas alrigh the two girl what is your names Helen and cherry

and Douglas alright cherry will you married me and Nicnolas alright Helen will you married me.

How romantic!

realised after about half an hour of false starts that I did not know how to think about writing history having no previous experience, so in the end I resorted to a vague model I had of how our A level text book had sounded. The model was totally inappropriate for the very specific evidence we had been given. The degree to which the need for experience is recognised and the manner in which the writing act is understood and responded to by writer or audience is part of the understanding created by any learning interaction. This will affect the part played by writing in the learning process and the learning process itself. The rest of this paper looks at the role of writing in the learning interactions of an infant classroom and junior and secondary classrooms.

The Infant Classroom

The children stayed in this vertically grouped class with the same teacher for the three years of their infant life. In the interaction, and the school as a whole, writing was visible as labels, questions, sentences, word and number lists, personal stories, classmade books, charts - and of course in published books. Most of this writing was done by the teacher or literate children within the normal interaction of the classroom so the act of writing was highly visible. That which 'appeared' was explicitly looked for, read and responded to appropriately and so the purpose of such writing and the thinking related to it was made clear through direct experiences. For example questions that appeared related to the pets pictures were read and answered publicly; a six year olds story that she had written at home was read to the class and they listened as they would to one from a published book. The models of writing and the purposes were implicitly part of the interaction and explicitly expectations were made of individuals that they too would have a try at writing both as a physical act and to express and extend their experience and thinking. Children frequently pursued their own interests in written form - either creative or factual and in many cases writing went along with drawing though some children seemed to prefer words.

Repetition of a story or work card that required new thinking was implicitly encouraged until the thinking had been mastered. If we look back to Figs 3b and 5b we can see how Helen

has mastered the form, content and writing related to representation of a well known story in Fig 3b This was the longest and most fluent writing she had done up to that point in her writing book. In the other example of her work (Fig 5b) done within a week or so of the other writing she is using the story form to re-organise disembedded private knowledge. The thinking required is more complex and new and the 'writing' if we regard it as syntax and spelling rather than meaning, is not so 'good'. I would argue however that the thinking she was doing in re-formulating her knowledge of 'woods', the characters of the story who were classmates at school, and the romantic story line was far more difficult for her than that involved in retelling the long story. All children experienced similar difficulties when facing new thinking - and so do I!

Over time the expression of new ideas became easier and spelling and other outward manifestations of writing became more consistent. The teacher's responses to writing mirrored the expertise of the writer at the thinking required by the writing. The teacher only drew attention to any spellings on the work of the most fluent story writers and the writing was usually responded to with the writer at hand. The children themselves talked 'about' writing frequently and pointed out spelling errors or missed words as they read over each other's work. Talking helped them conceptualise the process of writing.

The Junior School Classrooms (8 and 11 year olds)

Writing ceased to be as visible in the junior school classrooms though this was more extreme at the upper end of the school than the lower. Children's movement around the class was limited and looking at other people's writing was not acceptable. Discussion of the writing process was seen as 'not working' and children ceased to be as helpful to each other as they learned to 'cover up' their work or perceive as 'copying' other children's attempts to try to learn how to think about the knowledge they had to manifest. Teacher or children's responses to writing are increasingly geared to the standard of writing rather than the thinking involved. There is little excitement in writing. Children write to please the teacher while the teachers try to extend the knowledge and neat, well punctuated and spelt writing of the children. This approach continues in the secondary school.

The Secondary School Classrooms

In the secondary school interactions four major elements change, or rather complete the change of the meaning of writing in the learning process.

1. Writing becomes the major if not sole means of manifesting private knowledge. To be more explicit talking is rarely encouraged or used except to answer teachers' questions and few teachers used picture drawing as a means of enabling expression of private knowledge.

2. The act of writing becomes invisible.
The teachers don't write; looking at anyone else's writing is viewed as copying and looking at and reflecting on one's own with concommitant alterations and additions, is frequently seen as untidy while errors and ommissions are viewed as carelessness. Writing examples are not visible and the thinking and purpose of writing is not made explicit in knowledge terms. Purposes become associated with learning facts, homework and exams and not with the thinking of the subject or the skill of writing. The teacher is sole arbiter of good writing and its purpose.

3.Writing becomes increasingly separated from direct experience. Because of the compartmentalisation of the lessons the direct experience of the thinking of the lessons remain context bound and related to the indirect experience of the offered knowledge. Rarely do teachers ask for or expect reflection on the indirect experience in any framework but that of the lesson. In fact such reflections are seen as red herrings. Disembedded knowledge in thinking and writing terms is therefore rare.

4. The role of writing changes. Writing becomes a guage of expected or 'normative' knowledge rather than a means of publicly representing or extending private knowledge. Writing is seen by the teacher as reproduction of the words and ideas they have in mind so they can be learned for the exams. Children learn this through the teachers comments and the marks they get. Their own reflections and attempts to make their own meaning

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FIGURE 6 -

1st sheet of an exam paper of a 15 year old boy.

centre no 18315 . Candidate no 15

a) a Family Tree is when you Trace yor Ansesters back.

b) a extended family is when you mate yor mum and DADS family and brothers and sisters living with you.

c) a Nuclear family is mum DAD and 2 children

d

Rates are when you Pay for burning the water or ground or Electric.
we we Pay rates to The Council and the water bord and electric bord.

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from the experiences are frequently overtly rejected when they are less experienced than,or have different experience from the teacher. The learner's writing is not seen as part of the learning process but is seen as wrong and meaning the child has 'not listened' , 'tried hard' etc.
The children who found written expression of their cognitive experience difficult and did poorly in written tests were at a double disadvantage (Fig.6). Not only was writing still seen as a major means of testing what they had learned, but the experiences they were exposed to in their D and E sets presumed that they knew no more than they could write coherently. In being set, not only did they lose the opportunity to see other models of writers they also lost out on expectations of thinking and knowing at any but a low level. Those with more experience of school valued thinking lost the opportunities they previously had of being 'teachers' and therefore having to explain and disembed their cognitive experience.

The result of these changes in the part writing plays in the learning interaction is that reflection, disembedded knowledge and 'usable' conceptual private knowledge become rare, particularly among the less-verbal and unconfident pupils. All pupils resort in some subjects to "parrotting", ie learning and reproducing the words within the immediate context of the experience of them. The 'meaning' related to them is to do with getting exams, and not any knowledge or thinking framework that they can build on when they leave school. In fact the personal meaning that is built up within these interactions is that of being threatened by 'not knowing' and of learning not to write or otherwise expose what one is 'thinking' because one is sure to be wrong.

To be fair I must stress that this is not totally true of all teachers and lessons but in as much as all secondary teachers responded to writing as a product rather than part of a process of thinking, then the overall meaning of written work became the same. The satisfaction, if any, for the writers came to be the mark or comment they attained for the writing rather than what they found they knew or the pleasure they got in judging their own work. Out of a staff of over 30 teachers the children only

consistently referred to five teachers who helped you 'get in it your brain' and for these teachers writing was last in the line of ways of manifestation or trying out of knowledge.

In conclusion therefore I would argue that writing must take its place as one form of knowledge manifestation rather than the principle form, and secondly that our teaching/learning interactions must recognise the difference between process and product and allow the learner to define the meaning of any piece of writing. The learner will only learn to do this if the learning interaction values their thinking, knowledge and ignorance and provides models, opportunities and expectations for continued meaningful learning.
I would argue that we must recognise writing as more than a language form and use it to enable us to see into the thinking strategies and experience of learners of whatever age and level.

Reference

Barnes, D. (1976) From Communication to Curriculum, Penguin Education : Harmondsworth, England.